



Zero Beat



Hampden County Radio Association, Inc. - our 47th ARRL affiliated year

April 1995

Volume 3 Issue 8

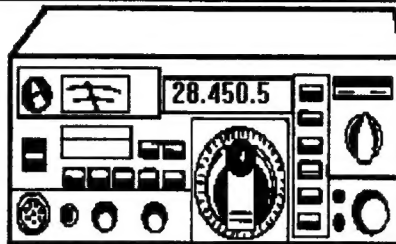
H.C.R.A. Notes.....

Last month's HCRA featured a interesting topic about antennas, feedlines, and SWR. Special thanks to Ed Hare, KA1CV who presented the meeting. It was a very informative ham radio meeting with some useful technical information presented. 28 people attended the meeting, thanks for showing up!

Don't forget our new reduced price on the refreshments, now only 25 cents per item!

The HCRA has changed its address. Please make a note of it. The new address is: P.O. Box 562, Agawam, MA, 01001-562.

Field Day has returned after a year



This month will feature a meeting about radio astronomy. Also, Field Day is back. Plan on attending! It will take place on the last full weekend in June.

off. This year it will be held at the Agawam High School on June 24-25. We are looking for participants. We also traditionally have had a cookout in conjunction with Field Day. Contact Barry, N1IJK at the next meeting if you are interested. Look for more in future Zero Beats, as well as announcements at the meetings as Field Day approaches.
(See you at the April meeting!)

Next H.C.R.A. Meeting.....

The next Hampden County Radio Association meeting will Take place on Friday night April 7, 1995 and will feature an interesting presentation about radio astronomy. We are very fortunate to have a well known professor from the University of Massachusetts come and give the presentation. Professor Andy Harris will be presenting this fascinating topic. Doors will open at 7:30 and the meeting will begin around 8:00 P.M. We hope to see you there!

**Feeding Hills
Congregational Church
JCT of Routes 57 & 187
Feeding Hills, Massachusetts**

The next board meeting will take place on Thursday April 12, 1995 and will be at Greg Stoddard's QTH. If you are interested in attending, please ask Greg N1AEH for directions at the next meeting. Remember, anyone can attend the board meetings.

Future Meetings.....

The following is a tentative schedule for the remainder of the 1994-95 club season:

April 7- Radio Astronomy. Andy Harris from the University of Massachusetts will be presenting this fascinating topic.

May 5- This will be an important club discussion on the future of the club. It will also be a Field Day preparation meeting to help psyche up those who are interested in attending.

June 2- Annual Banquet and election of officers. We will be having it at the church again do to a lack of interest in the restaurant idea. It will be free to up to date members.

June 22+23- ARRL Field Day. After a year off, the club is ready for another exciting year at the Agawam High School.

Happy Easter!



In This Issue....

President's Messag.....	Page 2
W1AW Schedule.....	Page 2
Application for Boar.....	Page 3
Young Ham Award.....	Page 5
What is Packet Radio?.....	Page 7-9

W1AW Schedule

W1AW Schedule

Time (EST) Mode Days

12 AM	RTTY	Daily
12:45 AM	VOICE	Daily
9 AM	CWs	Wed, Fri
9 AM	CWf	Tue, Thu
10 AM	CWb	Tue-Fri
11 AM	RTTY	Tue-Fri
4 PM	CWf	Mon, Wed, Fri
4 PM	CWs	Tue, Thu, Sat, Sun
5 PM	CWb	Daily
6 PM	RTTY	Daily
7 PM	CWs	Mon, Wed, Fri
7 PM	CWf	Tue, Thu, Sat, Sun
8 PM	CWb	Daily
9 PM	RTTY	Daily
9:45 PM	VOICE	Daily
10 PM	CWf	Mon, Wed, Fri
10 PM	CWs	Tue, Thu, Sat, Sun
11 PM	CWb	Daily

Frequencies (MHz)

CW: 1.818 3.5815 7.0475 14.0475
 18.0975 21.0675 28.0675 147.555
 RTTY: - 3.625 7.095 14.095 18.1025
 21.095 28.095 147.555

VOICE: 1.855 3.99 7.29 14.29 18.16
 21.39 28.59 147.555

Notes:

CW frequencies include code practices, Qualifying Runs and CW bulletins.

CWs = Morse Code practice (slow) = 5 - 7.5 - 10 - 13 - 15 WPM

CWf = Morse Code practice (fast) = 35 - 30 - 25 - 20 - 15 - 13 - 10 WPM

CWb = Morse Code Bulletins = 18 WPM

RTTY = Teleprinter Bulletins = BAUDOT (45.45 baud) and AMTOR-FEC (100 Baud).

ASCII (110 Baud) is sent only as time allows.

Code practice texts are from QST, and the source of each practice is given at the beginning of each practice and at the beginning of alternate speeds.

A DX bulletin replaces or is added to the regular bulletins between 8 P.M.

Eastern time Thursdays and 8 P.M. Eastern time Fridays.

On Tuesdays and Saturdays at 6:30 P.M. Eastern time, Keplerian Elements for active amateur satellites are sent on the regular teleprinter frequencies.

In a communications emergency, monitor W1AW for special bulletins as follows: voice on the hour, teleprinter at 15 minutes past the hour, and CW on the half hour.

W1AW is open to visitors during normal operating hours: from 1 P.M. to 1 A.M. on Mondays, 9 A.M. to 1 A.M. Tuesday through Friday, 1 P.M. to 1 A.M. on Saturdays, and from 3:30 P.M. to 1 A.M. on Sundays. FCC licensed amateurs may operate the station from 1 to 4 P.M. Monday through Saturday. Be sure to bring your current FCC amateur license or a photocopy.

Headquarters and W1AW are closed on New Year's Day, President's Day, Good Friday, Memorial Day, Independence Day, Labor Day, Thanksgiving and the following Friday, and Christmas Day. On the first Thursday of September, Headquarters and W1AW will be closed during the afternoon.

1995 H.C.R.A.

Board of Directors



Officers

President	N1IJK	Barry Mason
Vice President	N1GVV	Adam Olson
Treasurer	N1AEH	Greg Stoddard
Secretary	N1DUY	Jim Sebolt

Directors

Expiring 1995

N1FOW	Mike Griffin
N1KBY	Jeff Hugabone
N1RAL	Daniel McKay
WA1OHR	Everett Paluska

Expiring 1996

K1PZS	Harvey Broverman
K1CYD	George Corcoran
NR1L*	Kevin Hilinski*
KA1YZV	Donald Lynch

Coffee + Donuts: Don + Betty Mish*

Zero Beat: Kevin Hilinski NR1L - Editor, Mike Griffin N1FOW & Adam Olson N1GVV - Zero Beat Assistance (folding & stamps)

*resigning term, will need a replacement

President's Message

Hello, and Happy Spring! Well, it's official,, winter's over. Time to put down the soldering iron and concentrate on guy wires, gamma matches and radials.

This months speaker is professor Andy Harris from the UMASS Physics and Astronomy department speaker on radio astronomy. This should be another very interesting program, so make plans to attend.

Also, there will be info on the banquet and election of officers.

We are still there on Monday nights, where are you?

The HCRA ten meter net meets at 7:30 local time on 28.410 MHz. Propagation and antennas are usually the topic, but the agenda is open, and we would like more participation, so why not drop in?

Until Friday,
 73, Barry N1IJK

HAMPDEN COUNTY RADIO ASSOCIATION, INC.

P.O. BOX 562
Agawam, MA 01001-0562

APPLICATION FOR NOMINATION FOR ELECTION TO OFFICE

I, _____,
(Print your name here) (Callsign)

Hereby place my name in nomination for election to the office indicated below.
(Circle one candidate office below)

President

Vice- President

Treasurer

Secretary/Clerk

Director (2 year term)

Director (1 year fill-in)

Coffee & Donuts

I certify that I am now, and will maintain my status as, a current regular member, and if elected, will uphold the duties of the office and the standards of the HCRA.

(Sign Here) (Date)

Return this form when completed to the HCRA Secretary/Clerk.

91 Feb. 16 - JRS - N1DUY

June Election Info.....

Well, it is coming close to that time of year again, the HCRA's annual election. If you are interested in running for a position, we strongly recommend it this year! This would be a great opportunity for you to participate and help turn this club into one of the best around. This year we will have several positions open for candidates. President, Vice President, and five board positions. Don't be shy, if you are interested please contact Barry, N1IJK, or any other club officer to find out what is involved. It really is really rewarding and looks great on a resume! You can also fill out the

application form in the space above, and bring it to the next meeting. Just give it to Jim Sebolt, N1DUY. Or mail it to the club P.O. Box. If you want to see what goes on, you can attend the board meeting on March 9 at 7:30 P.M. This month's board meeting will occur at Greg Stoddard's house, located in Suffield, CT. Don't Hesitate to ask for directions at the next meeting. This would be a great chance for you to experience exactly what goes on at one of these meetings. Anyone is welcome. See page 6 in this issue for more information about the election.

Zero Beat is a monthly publication except in July and August by the Hampden County Radio Association, Inc. Any article may be reprinted as long as credit is given to the publication and its author(s). This issue would not be possible without the help of Adam Olson Thanks, EDITOR

Young Ham of the Year Award.....

Young Ham Of The Year

Yaesu U.S.A. Corporation has been joined by CQ Magazine as a corporate underwriter of the 1995 Newline "Young Ham of the Year Award." CQ Publisher Richard Ross, K2MGA, says the award is

"very worthwhile for the future of the Amateur Radio service" and has pledged CQ's support and assistance in publicizing the award.

The Young Ham of the Year Award program is intended to highlight the accomplishments of the nation's many young radio hobbyists and to encourage more young people to join the exciting and rewarding hobby of Amateur Radio, perhaps leading to careers in science and technology.

The award was originated in 1985 by Bill Pasternak, WA6ITF, then editor-in-chief of the "Westlink Report" ham radio newsletter. When Westlink Report ceased publication earlier this year, Pasternak decided to continue the Young Ham of the Year Award under the banner of his own "Amateur Radio Newline." Newline is the world's largest non-profit and totally independent ham radio broadcast news and data information service. This all-volunteer group has aired over 900 consecutive weekly broadcasts of amateur radio news and information since its inception in 1976.

Yaesu U.S.A. Corp. has long been the sole corporate underwriter of the Young Ham of the Year Award program since its inception. The company is a world leader in the design, manufacture and distribution of high-quality Amateur Radio and commercial two-way radio equipment. It has long recognized the importance of the nation's youth to the continued vitality of the Amateur Radio service.

According to Yaesu U.S.A. National Sales Manager Kevin Karamanos WD6DIH: "Our company's decision to continue its support of this award has been well-received within the Amateur Radio fraternity, which is competing with other technical hobbies and specialties for the interest of young people."

CQ, The Radio Amateur's Journal, is celebrating its 50th anniversary this year as ham radio's leading independent magazine. This magazine is the flagship publication of CQ YHOTY '95

Communications, Inc., which publishes a variety of magazines, books and videos for the amateur radio and hobby communications markets. CQ is a longtime supporter of efforts to attract young people to amateur radio.

"Nearly a decade ago, CQ represented the amateur radio industry in the development of the 'Archie's Ham Radio Adventure' comic book, the first promotional tool aimed specifically at young people," according to Publisher Richard Ross, K2MGA. "We are proud to continue that involvement as a corporate sponsor of the Young Ham of the Year Award."

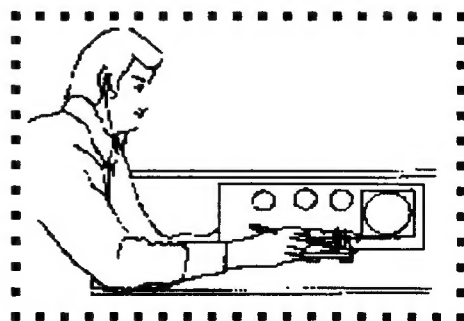
This year's award will be presented at the Huntsville, Alabama, hamfest on the weekend of August 19-20. The youngster selected will receive an expense paid trip to the Huntsville Hamfest and other gratuities courtesy of Yaesu U.S.A. Corporation. Presentation of the award itself will be made at the Huntsville Hamfest Grand Banquet the evening of August 19. As an added bonus, this year's winner will be treated to a VIP tour of Spacecamp Huntsville and the Marshall Spaceflight Center, courtesy of CQ magazine.

Nominations for the Young Ham of the Year Award are open to any FCC-licensed ham radio operator aged 18 and younger, living in the United States, who has used Amateur Radio to significantly contribute to the benefit of the service, to the state of the communications art, to their community or to the nation.

All nominations must be submitted before the extended filing deadline of June 30, 1995 and must be on an official application available for a self addressed stamped envelope. Write to: 1995 Young Ham of the Year Award, c/o Newline, 28197 Robin Avenue, Saugus California 91350. Official applications are also

available electronically with an E-Mail request to: BILLWA6ITF on America Online; B.PASTERNAK on Genie or BILLWA6ITF@aol.com via the Internet. Applications can also be downloaded from the America Online and Genie ham radio BBS software libraries.

Past recipients of the Young Ham of the Year award include Shawn Alan Wakefield, WK5P, of Bartlesville, Oklahoma (1986); David Rosenman, KA9PMK, of Muncie, Indiana (1987); Jonathan Binstock, NK3D, of Potomac, Maryland (1988); Erin McGinnis, KAOWTE, of Topeka, Kansas (1989); Mary Alestra, KB2IGG, of Staten Island, New York (1990); Richard S. "Sammy" Garrett. (1991). AAOCR, of St. Louis, Missouri (1991);

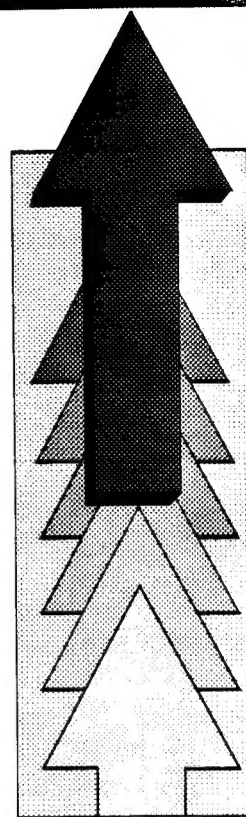


Licensing & Upgrade Info from the FCC....

* Effective - December 20, 1994, prospective licensees and upgraders can call the FCC at 1-800-322-1117 to learn whether or not their pending FCC Form 610 license application has been processed, and if a new license has been granted. If a new license has been granted, the person can begin immediate on-the-air operation (using their FCC-issued call sign) with the privileges of the new license as indicated by the FCC (during the telephone inquiry). The hardcopy (printed) license would follow shortly after the license grant is indicated in the FCC Amateur Service data base.

* News Flash * Effective December 1, 1994, FCC began accepting Form 610 data electronically from the ARRL, W5YI and Sunnyvale VECs. Four more VECs should also be doing so shortly.

If your test was coordinated through the ARRL/VEC, license turnaround time will be approximately 23-26 days. This includes 5 days between the VE team and the VEC; 1-2 days at the VEC (in some cases the same day); and 16-19 days at the FCC.



More Election Info....

As was mentioned on page 3, we will be needing interested club members to help the club out by running for the executive board or one of the director seats. We will also need a *Zero Beat* editor, as was mentioned on page 6. Please think about this and fill out the form on page three if you would like to help out. The club will not survive without people to run it! This year we will need a lot of positions filled. They are: President, Vice President, Four new board positions, and one filling term for expiring 1996, due to the resignation of Kevin, NR1L (He is relocating.) This year we will also be needing someone to run coffee and donuts for the upcoming year. We would like to thank Don & Betty Mish who have done a really good job for us this past year. The election, will be held in conjunction with the June meeting, see later *Zero Beat* for information on time and place. Similar to last year, nominations will be taken from the floor. (This will be providing that the slate has not been filled by the June meeting.) That person will be elected if: 1. They are present. 2. They are interested in the job, and 3. The majority votes that person in. Being active in running the club is essentially all not the difficult. It can involve some time, but it is really rewarding. Typically it involves finding meeting topics and speakers, recruiting new members, and fund raising. Be sure to run this year and see future newsletters for more info!



What is Packet Radio?.....



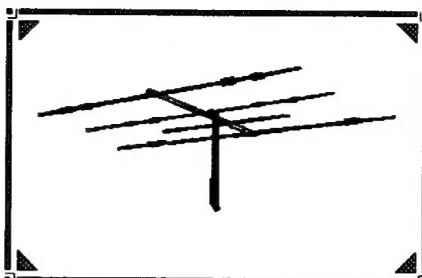
What Is Packet Radio?

Packet Radio is (yet another) digital transmission method available for use on Amateur Radio. It provides 'error free' transmission and reception of messages (information/data/etc.) between two stations. This error free capability is a prime consideration ('error free' in this context does not mean that your 'typing or spelling' mistakes will be fixed, but that all transmitted 'data' will be received 100% intact, as sent). In fact, if the data cannot be delivered 100% intact, the sending is eventually aborted and the user is informed that there is no longer a 'connection' between the two stations.

The 'Packet' in 'packet radio' comes from the method of transmitting your information over the air. Your 'data' is broken up into packets (or blocks) that are transmitted. Each packet contains the sending and the receiving station callsigns and some optional 'routing' information. A packet can contain from 0 to 256 data (or information) bytes. The users normally do not need to be concerned with this 'packetizing' of their messages. Each packet is sent and then acknowledged by the receiver when received. If a packet is not received correctly, then it is automatically re-transmitted (up to a maximum number of times).

One of the more popular protocols used for Amateur Packet Radio is known as AX.25. This is very similar to the commercial X.25 standard. There is also a growing TCP/IP user base. If you are not network oriented, then the details of these protocols are not important to you as an operator of a packet radio station.

Be aware that most packet radio operation at this time is at 1200 baud. This will seem slow when compared to what is happening on networks, and on telephone BBS's....but what is gained is world wide access, for NO COST. Once you have your equipment, and your



license, there are no fees (except for the electricity that your computer and other equipment use :-))

What kind of equipment due I need, and how do I use it with my computer?

Since you have a computer, you already own the most expensive part of an Amateur Radio Packet Radio station. The other piece of equipment that you need is the TNC (Terminal Node Controller). The TNC contains all the software and special hardware that you need. It actually contains the MODEM (to interface with your radio) and (usually) a microprocessor with the packet software contained in EPROM. You interface your computer (or even a simple dumb ASCII terminal) with the TNC via serial RS-232. Use your favorite 'terminal emulation software' on your PC (the same software that you use with your telephone modem will probably work fine).

Most 'primary' packet radio operations occur (in the USA) on the two meter band. Check out the following frequencies (they may be different in your area, check with some local hams if you don't hear anything) even the typical 'police scanner' can be used to listen to these frequencies:

145.01, 145.03, 145.05, 145.07,
145.09 Mhz also, if the above are busy,
many areas also use: 144.91, 144.03,
144.95, 144.97, 144.00 Mhz

Yes, this is with a 'standard' FM radio set for SIMPLEX transmitting. If there are packet radio transmissions you should hear a sound like:

BBBbbbbrrrrraaaaaappppppp

3) How much technical (hardware) proficiency is required to manage a packet radio system? (I have a general understanding of hardware, but am more comfortable programming.)

Well, if you can plug an RS-232 cable into a modem, and wire the TNC to your radio (most TNC's connect to the microphone plug of an FM rig, normally only needing Push To Talk, and Transmit Audio. Plus a connection to the speaker audio output from the FM receiver), then you have all the ability that you need. If you are not comfortable with wiring a microphone connector...I am sure that there are hams that would be glad to help you. It really is very simple, and once it is done, there is virtually no maintenance. Just plug in your TNC in place of your microphone and external speaker jack, and you're on the air...to return to voice operation, plug in your microphone. If you like, build a simple switch box to allow easy changing between your TNC and voice operation. I don't recommend it, but some wire the TNC and Microphone in parallel, so that they don't need to change the plugs, or switch anything at all.

4) Just what's out there for me to access via packet radio?

Here comes the interesting part...I believe that packet radio is still in its infancy...It seems like every day a new application for packet radio is announced...some are good ideas...others not.

Here is a *simple* list that just highlights some of the available uses of Amateur Packet Radio.. I am SURE that I have forgotten something and left it off the list:

EMAIL: At this time we have 'world wide' email distribution. I personally have received email from a few

Continued on page 8

What is Packet Radio (Cont.).....

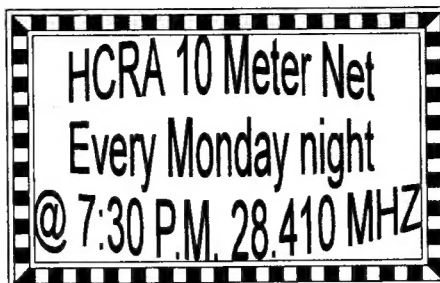
continents, and from all over the USA. Of course, this is limited by the Amateur Radio rules/regs, so there can not be any commercial messages. This is possible with "store and forward" bulletin board systems (BBS) that automatically forward message from location to location until it reaches a destination BBS.

Bulletin boards (BBS), which are similar to telephone BBS and carry postings similar to the stuff on Usenet and other computer services and also often have archives of useful files (such as local ham license testing sites). These are usually the same systems that transport email which also makes it possible to post notices on BBS all over the country.

File transfers. Better at 56 Kbaud (as some hams are doing), but feasible at 1200 baud. This includes all types of files, not just ASCII text, so it is possible to transfer programs, graphics, etc. The capability for doing this is dependent on what type protocol in use and the amount of traffic on the frequency being used. On TCP/IP, you just start it and forget it, so you can do them overnight or at some other time when you don't care whether it takes a while.)

Local networks: Here in New England there is connectivity over most of the 6 states. From Derry, NH, for example, it is possible to 'connect' to other stations from the following areas consistently: Canada (Quebec), Vermont, New Hampshire, Maine, New York, Connecticut, Rhode Island. Of course, on HF there can be 'world wide' connectivity, depending on many factors.

DOSGATE: A system that allows you to execute programs remotely. A DOSGATE system may have many programs for you to use over the air. You don't need to download the programs to use them, you are actually running programs remotely. For example, my DOSGATE system has the following



programs available for use by 'remote' packet users:

AUTOEXAM: take the latest Amateur Exams from Novice to Extra, used as a study guide, or to see if you are ready for the licence exam.

SeeSats: Real time satellite tracking. Informs you of where the current OSCAR (and other) satellites are located.

AUTOCALL: Online Amateur Radio USA 'callsign' lookup database. Simply enter the callsign of any amateur radio operator in the USA and it will print out the name, address, licence class and previous callsign (if any).

GAMES: Several 'adventure style' games that can be played online.

Repeater database: A database of many of the repeaters in the area.

DOSGATE allows those who don't have a computer to run programs via packet radio.

Databases. It is also possible to access databases without DOSGATE. There are several available in different parts of the country. You can remotely access callbook (address information), vessel tracking info, HAZMAT (hazardous materials). The DX Packet Cluster also provides a variety of DX information from its database.

PacketCluster-DX spotting: This is a specialized system that allows a couple hundred users to be 'connected' to the same system at one time. It is

used by those Amateur operators who seek contacts with rare stations throughout the world. When any one user 'finds' a rare station on the air, he simply types the information (callsign, frequency and mode) into his terminal, and within a minute or so, everyone of the other users connected to the 'packet cluster' are informed of the rare station!!! So called "DXers" (people who love to hunt these rare stations) LOVE this system. These users can be spread over a wide area (our local packet cluster system has connectors from Maine to New York).

Gateways: Even though you may not own any HF or UHF equipment (many packet radio operators only use a simple 'hand-held' FM transceiver), you can gain access to other bands and operating modes by using a gateway. A gateway allows connectivity between two normally un-connectable communication technologies.

Public Service: Many packet stations are used to help out with sending messages during disasters. Amateur Radio operators help out whenever they can, and many Hams have their packet stations ready for portable operation to help when needed. There are many 'training' exercises during each year to help practice and test the 'readiness' of the emergency stations.

OSCAR Satellites: OSCAR stands for Orbital Satellites Carrying Amateur Radio. We have our OWN satellites in orbit that are dedicated for Amateur Radio use. There are some satellites that are dedicated to packet radio (sometimes called "PACSATS"). Some of these are special, others are for 'store-and-forward' operations to help distribute 'packet traffic' around the world.

Station-Station: I almost forgot...many people just like 'chatting' with their neighbors....The could be
Continued on Page 9

What is Packet Radio (Cont.).....

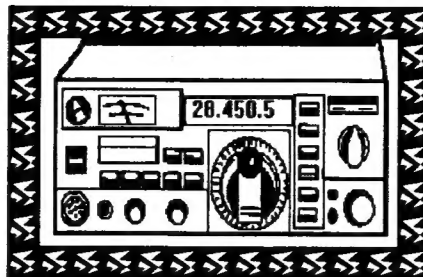
people across the street...or in the next state... or half way around the world!

I am sure that I have missed something...maybe others can fill in the gaps here. You asked about potential...as I stated at the beginning, we are just

getting started!!! Many people are just finding out about packet radio. I believe that the only limitation is our imagination!! We could have a world wide network (we do currently have a 'slow-speed' world wide network) in the near future.. It just takes a little imagination...

5) How much will a packet radio set-up cost me? How COST EFFECTIVE is packet radio?

Well, if you own the PC already...TNC's can be purchased from about \$120.00 on up. There are a few for less money, and several that provide for operating on many digital modes besides packet radio (i.e.: the Kantronix



KAM will provide for: PACKET (HF:300 baud/VHF:1200 baud), AMTOR, RTTY, ASCII, NAVTEX, WEFAX, CW (morse code).

If you already own an Amateur FM transceiver (or an HF SSB transceiver) then you have all the equipment needed. If not, a two meter FM rig can be purchased for: used: from \$100-250.00, new: from \$300.00 on up.

Cost effective....Hmmm, well first be aware that Amateur Radio cannot be used for any commercial or business purposes...But where else can one get hours (years) of 'enjoyment' and service out of \$450.00 (\$350 for a radio and \$100 for a TNC, assuming you already

have the computer or terminal). Note: This stuff can be contagious...be forewarned :-) !!

6) What legal issues do I need to consider regarding packet radio? Do I need a license?

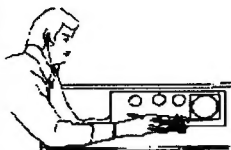
Yes, you need a Valid Amateur Radio License. There is Packet radio activity on the Novice bands. But if you want access to the 'mainstream' of packet radio, you will want at least a Technician Class Amateur Radio License.

There are a few books, etc...but I have found that most assume that you already know about Amateur Radio. You need to find what we call (ready for another term?) an "Elmer"....An "elmer" is a friendly, helping Amateur Radio operator who will 'take you under his/her wing' to help and guide you as much as you need. I hope that you can find someone to help you...it takes a special kind of person to be an 'elmer' (gosh I hate that term).

1995 Annual Flea Market Update....

The HCRA is planning to hold its annual flea market on October 28, 1995. Please note, the flea market will not be held at the end of April as in the past couple of years. Many of our members and non-members have been curious as to whether a flea market will be held this year. It will not be possible without your help so please chip in and give a hand. We seriously need your help to make this flea market possible because some of our volunteers from the past will not be able to help this year. If we do not have enough volunteers to help make the flea market possible, then we may be forced to postpone it until further notice. Remember, this is an organization where we all help each other. If you are one of those who wants to see a flea market happen, then why not *help* us out?

April Meeting: Professor Andy Harris



Friday April 7, 1995
Doors Open at 7:30 P.M.
Meeting will begin around 8:00 P.M.



Radio Astronomy from UMASS

Attention HCRA Members, Important information!!:

The future of the H.C.R.A. must be discussed at the upcoming May meeting. It primarily will deal with the ongoing problem of getting people interested in running for office as well as new members joining the club. The board has felt that we have done a good job getting meeting topics and providing the members with benefits to make the membership fee worth it. For example, the free June and December banquets we have had in the past. However, the same people can't continue to run the club. Many of us will be moving from the area and will be forced to resign.

Amateur Radio Specialties

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Indian Orchard, Mass. 01151
Antennas and Amateur
Related Accessories
Stan Bates N1INB
(413) 543-5654

Editor: Kevin S. Hilinski NR1L

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P.O. Box 562
Agawam, MA 01001-0562

Forwarding + Address correction requested

First Class Mail



AC1T E V C A 14 I 10/95

Special Packet Article Pages 7-9